

## **REMARKS**

This application has been carefully reviewed in view of the above-referenced Office Action, and reconsideration is requested in view of the following remarks. Applicant appreciates the indication that claims 14-29 are allowed, and notes that claims 30-42 are not rejected based upon prior art. Withdrawn claims 1-13 have been cancelled without prejudice as being unelected in the restriction.

### **Regarding the Abstract**

The abstract has been redrafted to more directly encompass certain embodiments consistent with the elected group. Reconsideration is respectfully requested.

### **Interview Summary**

The undersigned spoke briefly with Examiner Mai on August 23, 2007 and arranged to speak in greater detail regarding the section 101 rejection in this application on August 27, 2007. At the initial interview, Examiner Mai indicated that he would be unable to provide me with a binding decision on the matter, since he had allowed the claims over the art, but the claims were later rejected by the examining group's 101 panel. The undersigned appreciates the Examiner's candor in this matter and further appreciates the initial guidance as to what his examining group's 101 panel generally is looking for.

The undersigned spoke further with Examiner Mai on August 27, 2007 who provided some additional guidance as to the reasoning for the 101 rejection. Examiner Mai indicated that the distinction between the allowed and rejected claims, in part, was the addition of the derivation of an error signal. The undersigned appreciates the Examiner's assistance in this matter. In order to further clarify the reasoning for the 101 rejection, the undersigned further consulted with Examiner Mai's SPE – Ms. Meng-Ai An. Ms. An expanded somewhat on Examiner Mai's explanation of the rejection, and indicated that there are three issues that should be addressed to comply with section 101: preemption of a mathematical algorithm, embodiment as pure software, and producing a tangible result. Unfortunately Ms. An was pressed for time and the undersigned was unable get full clarification of the rejection prior to Ms. An having to

excuse herself to catch a car pool. The undersigned appreciates the Examiner and the SPE's time and efforts in assisting the undersigned.

The novelty and non-obviousness of the claims is apparently undisputed.

#### **Regarding the Rejections under 35 U.S.C. §101**

The undersigned disputes the correctness of the current statutory subject matter rejections for at least the following reasons:

- In making the restriction requirement dated May 9, 2007, the Office expressly admits and relies on the assertion that the sub-combination of claims 30-42 “has separate utility such as a power spectrum estimator.” It is submitted that producing an estimate of power in a signal is in fact a tangible result with many uses.
- The Office Action further submits that the claims can be interpreted as “software per se” and cites Applicant's specification at page 19, line 19. However, it is noted that this passage more exactly states “Software and/or firmware embodiments may be implemented using a programmed processor executing programming instructions” (emphasis added). Hence, a “software” embodiment is disclosed to use software in conjunction with a programmed processor – clearly not software per se as asserted – and must be properly considered as such in evaluating a means plus function claim. Disclosed embodiments are more properly characterized as utilizing a programmed processor or hardware equivalents as disclosed, for example, in the drawings (e.g., as shown in Fig. 1).
- A portion of the rejection appears to be based upon the presumption that the elements of the claim merely implement and preempt a mathematical algorithm. However, this is not the case since the claims clearly call out physical devices operating on a signal containing power to produce an output that estimates the power in the signal. The assertion that the means plus function claim language, which is explicitly sanctioned by 35 U.S.C. §112, can be read as software alone is believed incorrect since at least “means for extracting pulses of a specified pulse width from the signal” is believed to clearly call for a tangible device. Software code in isolation cannot perform this function. Moreover, the claim

calls for means for filtering which processes a signal to filter the signal. This processing can be done using hardware circuits (as shown in Fig. 1 for example) or in a programmed processor, but again any software operates on a programmed processor in order carry out their function and fall within the scope of the means plus function claims equivalents.

The above notwithstanding, in order to expedite allowance of the present application, claim 30 has been amended to call for using the output signal to generate a coded weight function that controls tap weights in a digital filter. Hence, claim 30 clearly cannot be pure software since it requires a digital filter, and there is a real world concrete, tangible and useful result of adjustment of the taps of a digital filter – such tap adjustment is useful in producing a more accurate filtering function, e.g., for equalization purposes. No algorithm is pre-empted per se. This amendment is supported throughout the specification, and for example in the process shown in Fig. 6.

Independent claim 34 has been similarly amended.

Reconsideration and allowance of claims 30-39 are respectfully requested.

Finally, regarding claims 39-42, each of these claims calls for both “a pulse extraction circuit”, and “a counter circuit” operating in conjunction with a “subtractor”. These claims are not cast in means plus function format as asserted and explicitly call out “circuits” operating in combination to carry out a useful application. They clearly have practical real world concrete, tangible and useful application as a power estimator circuit. They clearly do not pre-empt any algorithm and cannot be interpreted as pure software. However, in the interest of expediting allowance of the present claims, claim 39 has also been amended to call for “an absolute value circuit that converts the difference signal to an error signal by taking the absolute value of the difference signal.” Hence, they are submitted to be clearly statutory. Reconsideration and allowance of claims 39-42 are respectfully requested.

### **Interview Request**

In view of this communication, all claims are believed to be in condition for allowance and such is respectfully requested at an early date. However, Applicant is willing to work with the Examiner to make further amendments if necessary to expedite allowance. Hence, if further matters remain to be resolved, the undersigned respectfully requests the courtesy of an interview.

Respectfully submitted,

/Jerry A. Miller 30779/

Jerry A. Miller  
Registration No. 30,779

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Please Send Correspondence to:  
Miller Patent Services  
2500 Dockery Lane  
Raleigh, NC 27606  
Phone: (919) 816-9981  
Fax: (919) 816-9982  
**Customer Number 24337**